PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

Application No.	: 10/572,934	Confirmation No.: 4994
Applicant	: Detlev Wittmer	
Filed	: December 13, 2007	
Title	:METHOD FOR SAFE DATA TRANSMISSION BETWEEN AN :INTRINSICALLY SAFE SENSOR AND A NON-INTRISICALLY SAFE EVALUATION UNIT	
TC/A.U.	: 2184	
Examiner	: E.T. Oberly	
Docket No.	: WITT3006/FJD	
Customer No.	: 23364	

BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22202-3514

Sir:

INTRODUCTORY COMMENTS

Pursuant to the provisions of 37 CFR 41.37, submitted herewith is Applicant/Appellant's Brief on Appeal along with the required fee.

Any additional fees necessary for this appeal may be charged to the undersigned's Deposit Account No. 02-0200.

REAL PARTY IN INTEREST

(37 CFR 41.37(c)(1)(i)

The real party in interest is Applicant/Appellant's assignee, Endress + Hauser Conducta Gesellsch Fur Mess-U. Redgeltechnik MBH + Co. KG . The assignment was recorded on February 8, 2007 at Reel 018927 and Frame 0335.

RELATED APPEALS AND INTERFERENCES

(37 CFR 41.37(c)(1)(ii)

There are no related appeals or interferences with respect to the invention defined in this application.

STATUS OF CLAIMS

(37 CFR 41.37(c)(1)(iii))

Claims 1 - 6, 9 and 10 have been cancelled.

Claims 7, 8 and 11 - 19 are pending in this application.

Claims 7, 8 and 11 - 19 have been finally rejected.

STATUS OF AMENDMENTS

(37 CFR 41.37(c)(1)(iv))

No amendment was filed after issuance of the Office Action of June 7, 2011.

A Notice of Appeal was filed on September 7, 2011.

SUMMARY OF CLAIMED SUBJECT MATTER

(37 CFR 41.37 (c)(1)(v))

(References are to page and line of the specification)

The invention being considered on this appeal relates to a method for the

safe data transmission between an intrinsically safe sensor and a non-intrinsically safe evaluation unit (computer unit), (pg 1, lines 3 and 4). Intrinsically safe and non-intrinsically safe is to be understood in the sense of areas protected from explosion (Ex-zones), (pg. 1, lines 9 and 10).

Structurally, included are a sensor S, connected to a calibration unit K, which in turn is connected through a data line D2 and an interface CDI with a computer R (Fig. 1). The method includes the steps of: converting the analog measurement values into digital measurement data in the sensor S, (pg 2, lines 22 - 23): transferring the digital measurement data to the sensor-module head SMK of the sensor S via a galvanically decoupled transfer path, after which the measurement data is forwarded to the calibration unit K, (pg 2, lines 23 - 25); saving the measurement data to the portable storage medium S, which is separable from the calibration unit K, (pg 4, lines 8 and 9); transporting the storage medium SP in a separated state to the computer unit R, (pg. 4, lines 10 and 11); connecting the storage medium SP to the computer unit R, (pg. 4, line 12): and transferring the measurement data to the computer unit R, (pg. 4, line 13).

The independent claims 7, 8, 11, 13, 14 and 17 will now be mapped.

7. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of :

converting analog measured values into digital measurement data in a sensor-module of the sensor (pg. 2, lines 22 and 23);

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path, (pg. 2, lines 24 and 25), and further to a calibration unit, wherein a calibration of the sensor is possible with the help of the calibration unit (pg. 2, line 26, and pg. 3, lines 24 and 25);

saving the measurement data to a portable storage medium which is

separable from the calibration unit (pg 4, lines 8 and 9);

transporting the storage medium in a separated state to the computer unit, (pg. 4, lines 10 and 11);

connecting the storage medium with the computer unit via an interface that serves as an Explosion-barrier providing a galvanic separation, which occurs either optically capacitively or inductively (pg. 4, line 12, and pg. 3, lines 15 to 17); and

transferring the measurement data to the computer unit (pg. 4, lines 13 and 14).

8. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor (pg 2, lines 22 and 23):

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path (pg. 2, lines 24 and 25), and further to a calibration unit, wherein a calibration of the sensor is possible with the help of the calibration unit (pg. 2, line 26 and pg. 3, lines 24 and 25);

transferring the measurement data from the calibration unit to an interface, which is embodied as an Explosion-barrier providing a galvanic separation, which occurs either optically, capacitively or inductively (pg. 2, lines 27 and 28); and

transferring the measurement data from the interface to the computer unit via a standard interface provided at the computer unit (pg. 3, lines 1 - 3 and pg. 4, lines 13 and 14), wherein:

the standard interface at the computer unit is a USB-interface; and data transfer between the sensor and the calibration unit occurs with a proprietary protocol in accordance with the RS485 standard (pg. 2, lines16 -19).

11. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor (pg. 2, lines 22 and 23); and

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path (pg. 2 , lines 24 and 25), and further to a plug-in module of the computer unit, with the plug-in module comprising an Explosion-barrier, providing a galvanic separation, which occurs either optically, capacitively or inductively (pg. 3, lines 22 - 25).

13. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor (pg. 2, lines 22 and 23);

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path (pg. 2, lines 24 and 25), and further to a plug-in module of the computer unit, wherein the plug-in module provides a galvanic separation which occurs either optically, capacitively or inductively (pg. 2, lines 5 and 6), wherein:

in the computer unit different sensors and measuring points are managed(pg. 4, lines 18 and 19); and

a graphic illustration of the history of the sensor is provided at the computer unit (pg. 4, lines 19 -21).

14. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor (pg. 2, lines 22 and 23);

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path (pg. 2, lines 24 and 25), and further to a calibration unit (pg. 2, line 26);

calibrating the sensor with the help of the calibration unit (pg. 2, lines 7 and

8);

saving calibration data of the sensor to a portable storage medium which is separable from the calibration unit (pg 3, lines 29 and 30);

transporting the storage medium in a separated state to the computer unit(pg. 4, lines 10 and 11);

connecting the storage medium with the computer unit (pg. 4, line 12) via an interface that serves as an Explosion-barrier providing a galvanic separation (pg. 2, lines27 and 28), which occurs either optically, capacitively or inductively (pg. 3, lines15 - 17); and

transferring the calibration data to the computer unit via a standard interface provided at the computer unit (pg. 3, lines 1 - 3).

17. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor (pg. 2, lines 22 and 23);

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path (pg. 2, lines 24 and 25), and further to a calibration unit (pg. 2, line 27);

calibrating the sensor with the help of the calibration unit (pg. 2, lines 7 and 8);

transferring calibration data from the calibration unit to an interface, which is embodied as an Explosion-barrier providing a galvanic separation, which occurs either optically, capacitively or inductively (pg. 3, lines 22 - 25); and

transferring the calibration data from the interface to the computer unit via a standard interface provided at the computer unit (pg. 3, lines 1 - 3), wherein:

the computer unit provides a history of the sensor using the calibration data (pg. 4, lines 19 - 21).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(37 CFR 41.37(c)(1)(vi))

There are four (4) final rejections advanced by the examiner in the final rejection of June 7, 2011. These are as follows:

1) Claims 7, 11 and 13 - 17 are finally rejected under 35 USC 103(a) over Ketler et al in view of Behrens et al, Mancini et al and Vazach et al;

2) Claim 8 is finally rejected under 35 USC 103(a) over Ketler et al in view of Behrens et al, Vazach et al and Barros De Almeida et al;

3) Claims 12 and 18 are finally rejected under 35 USC 103(a) over Ketler et al in view of Behrins et al, Mancini et al, Vazach et al and Barros De Almeida et al; and

4) Claim 19 is finally rejected under 35 USC 103(a) over Ketler et al in view of Behrens et al, Mancini et al, Vazach et al and Parker et al.

Of the finally rejected claims, claims 7, 8, 11, 13 14 and 17 are in independent form.

ARGUMENTS

(37 CFR 41.37(c)(1)(vii))

(1)

The first rejection combines Ketler et al, Behrens et al, Mancini et al and Vazach et al. This combination is applied against claims 7, 11 and 13 - 17. Of these claims, claims 7, 11, 13, 14 and 17 are in independent form, with claim 11 being the broadest claim of this group of independent claims.

Claim 11 recites the two steps of : (1) converting analog data into digital data, in a sensor-module of the sensor, and (2) then transferring the converted data via a galvanically decoupled transfer path to a sensor-module head, and to

a plug-in module of the computer unit. These comprise the two features of claim 11. The plug-in module comprises an Explosion-barrier, providing a galvanic separation, which occurs either optically, capacitively or inductively. Providing this uniquely plug-in module yields yet another feature of claim 11, namely feature (3).

The examiner states that " Ketler does not appear to explicitly disclose converting analog measured values into digital measurement data or the intrinsic safety barrier is a galvanically decoupled transfer path. Furthermore, Ketler does not appear to explicitly disclose a plug-in module comprising an Explosion-barrier providing a galvanic separation, which occurs either optically, capacitively or inductively." The examiner admits, therefore, that Ketler et al lacks features (1) and (3) of the three noted features of claim 11. The examiner turns to Behrens et al for their teaching of "converting analog measured values into digital measurement data (.....col. 7, lines 35 -37) and a galvanically decoupled transfer path (....fig.7, col. 10, lines 15 - 30)." The examiner turns to Behrens et al for what he believes to be features (1) and (2). If Behrens et al teaches features (1) and (2) and Ketler et al teaches only (1), what is the point of citing Ketler et al? None is apparent. Feature (3) is still missing. For feature (3) the examiner turns to Mancini et al. According to the examiner, "Mancini discloses a plug-in module of a computer unit (....col. 3, lines 46 - 50)."

According to the examiner, Behrens et al teaches features (1) and (2) and Mancini et al teaches feature (3). Again, one would ask: what purpose does Ketler et al serve? Once again, Appellant/Applicant must answer - none. Applicant/Appellant sees no pint in the citation of Ketler et al

Next: Does Behrens et al and Mancini et al teach what the examiner states that they teach, that is do they teach features (1) - (3)? Appellant/Applicant believes that they do not.

The examiner refers us to col.7, li0nes 35 - 37 of Behrens et al, which does mention an analog to digital conversion. But conversion from analog to digital is not where the emphasis should be placed. The conversion takes place "in a sensor-module of the sensor." Does Behrens et al do this? We think not.. Apparently, the examiner is construing claim 11 more brodly than its specific recitation. Is that permitted by 35 USC 103? We think not. The specifically recited steps must be found and not some phantom broader claim which the examiner constructs. The examiner's function is not to reconstruct the claims being examined, but to examine the claim drafted by applicant.

The examiner also applies the Vazach et al. Perhaps Vazach et al supplies the defects noted in Ketler et al, Behrens et al, and Mancini et al. Vazach et al is cited for its relevance to an Explosion barrier. That, however, is not enough to cure the defects noted in Ketler et al, Behrens et al and Mancini et al.

It is respectfully submitted that if the rejection of the broadest independent claim (claim 11) fails, then the rejection of the other independent claims rejected with claim 11, namely, claims 7 and 13 - 17 must also fail.

(2)

In finally rejecting independent claim 8, the examiner adds Barros De Almeida et al hereinafter, Almeida) to the combination of Ketler et al, Behrens et al, Mancini et al and Vazach et al.

The question here is not unlike that posed with respect to the application of Vazachbet al, namely, does Almeida cure the defects found in the combination of Ketler et al, Behrens et al, Mancini et al and Vazach et al? Again, the answer, respectively, is no.

Almeida is cited for its teaching relatingn to interfaces. But that is not enough to cure the defects noted above

(3)

On page 21 of the final rejection dated June 7, 2011, the examiner states that "Ketler, Behrens, Vazach and Barros De Almeida are analogous art because they are from the same field of endeavor, intrinsically safe data collection and transmission." Such is not the total standard for determining analogy. See, ***In re Demski***, 230 USPQ313 (Fed. Cir. 1986) wherein the CAFC instructed us that analogy has a two step test: the inventor's field of endeavor; and if the field of endeavor is ***not identical to that of the inventor***, whether the reference is reasonably pertinent to the ***particular problem*** faced by the inventor. It is respectfully submitted, that this two step test has not been met by all of the references noted as analogous by the inventor.

CONCLUSION

In view of the above, it is respectfully submitted that claims 7, 8 and 11 - 19 should be allowed over the references of record and those applied.

Respectfully submitted
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APPENDIX OF CLAIMS
(37 CFR 41.37 (c)(1)(viii)

Claims 1 – 6 (Cancelled).

7. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor;

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path, and further to a calibration unit, wherein a calibration of the sensor is possible with the help of the calibration unit;

saving the measurement data to a portable storage medium which is separable from the calibration unit;

transporting the storage medium in a separated state to the computer unit;

connecting the storage medium with the computer unit via an interface that serves as an Explosion-barrier providing a galvanic separation, which occurs either optically capacitively or inductively and

transferring the measurement data to the computer unit.

8. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a

sensor-module of the sensor;

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path, and further to a calibration unit, wherein a calibration of the sensor is possible with the help of the calibration unit;

transferring the measurement data from the calibration unit to an interface, which is embodied as an Explosion-barrier providing a galvanic separation, which occurs either optically, capacitively or inductively; and

transferring the measurement data from the interface to the computer unit via a standard interface provided at the computer unit wherein:

the standard interface at the computer unit is a USB-interface; and data transfer between the sensor and the calibration unit occurs with a ~~proprietary~~ protocol in accordance with the RS485 standard.

Claims 9 - 10 (Cancelled).

11. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor; and

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path, and further to a plug-in module of the computer unit, with the plug-in module comprising an Explosion-barrier,

providing a galvanic separation, which occurs either optically, capacitively or inductively.

12. The method as claimed in claim 11, wherein:

the plug-in module is a PCMCIA plug-in card.

13. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor;

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path, and further to a plug-in module of the computer unit, wherein the plug-in module provides a galvanic separation which occurs either optically, capacitively or inductively, wherein:

in the computer unit different sensors and measuring points are managed; and

a graphic illustration of the history of the sensor is provided at the computer unit.

14. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor;

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path, and further to a calibration unit;

calibrating the sensor with the help of the calibration unit;

saving calibration data of the sensor to a portable storage medium which is separable from the calibration unit;

transporting the storage medium in a separated state to the computer unit;

connecting the storage medium with the computer unit via an interface that serves as an Explosion-barrier providing a galvanic separation, which occurs either optically, capacitively or inductively; and

transferring the calibration data to the computer unit via a standard interface provided at the computer unit.

15. The method as claimed in claim 14, wherein:

the computer unit provides a history of the sensor using the calibration data transferred from the portable storage medium.

16. The method as claimed in claim 7, wherein:

the measurement data is transferred to the computer unit via a standard interface provided at the computer unit, which is connected to the interface that serves as an Explosion-barrier.

17. A method for safe data transfer between an intrinsically safe sensor and a non-intrinsically safe computer unit, comprising the steps of:

converting analog measured values into digital measurement data in a sensor-module of the sensor;

transferring the digital measurement data to a sensor-module head of the sensor via a galvanically decoupled transfer path, and further to a calibration unit;

calibrating the sensor with the help of the calibration unit;

transferring calibration data from the calibration unit to an interface, which is embodied as an Explosion-barrier providing a galvanic separation, which occurs either optically, capacitively or inductively; and

transferring the calibration data from the interface to the computer unit via a standard interface provided at the computer unit, wherein:

the computer unit provides a history of the sensor using the calibration data.

18. The method as claimed in claim 17, wherein:

the standard interface at the computer unit is a USB-interface and wherein data transfer between the sensor and the calibration unit occurs with a protocol in accordance with the RS 485 standard.

19. The method as claimed in claim 13, wherein:

an assessment of the life span of an electrode in a sensor is provided by the computer unit.

EVIDENCE APPENDIX

There is no evidence being relied upon which was submitted pursuant to 37 CFR 1.130, 1.131 or 1.132.

RELATED PROCEEDINGS APPENDIX

There is no related proceeding being relied upon.